

Erratum: Heavy fields and gravity

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In the published version of this manuscript, the values of $\beta(a_1)$ and $\beta(a_2)$ in (3.20) were incorrect, as the results of the one-loop calculation were mistakenly matched to $\mathcal{L}_{\text{EFT}}^{\partial^4} = a_1 R^2 + a_2 R_{\mu\nu}^2 + a_{\text{GB}} R_{\mu\nu\rho\sigma}^2$, rather than $\mathcal{L}_{\text{EFT}}^{\partial^4} = a_1 R^2 + a_2 R_{\mu\nu}^2 + a_{\text{GB}} \mathcal{L}_{\text{GB}}$ with \mathcal{L}_{GB} given by

$$\mathcal{L}_{\text{GB}} \equiv R^2 - 4R_{\mu\nu}R^{\mu\nu} + R_{\mu\nu\rho\sigma}R^{\mu\nu\rho\sigma},$$

as in (2.4) of the draft. This error had no effect on the conclusions of this paper.

The corrected table should read:

| Matter | $\beta(\Lambda)$ | $\beta(M_p^2)$ | $\beta(a_1)$ | $\beta(a_2)$ | $\beta(a_{\text{GB}})$ |
|---------|-----------------------------------|-----------------------------------|--------------------------|--------------------------|--------------------------|
| Scalar | $\frac{m^4}{2(4\pi)^2}$ | $\frac{m^2}{3(4\pi)^2}$ | $-\frac{1}{120(4\pi)^2}$ | $-\frac{1}{60(4\pi)^2}$ | $-\frac{1}{180(4\pi)^2}$ |
| Fermion | $-\frac{2m^4}{(4\pi)^2}$ | $\frac{2}{3}\frac{m^2}{(4\pi)^2}$ | $\frac{1}{30(4\pi)^2}$ | $-\frac{1}{10(4\pi)^2}$ | $-\frac{7}{360(4\pi)^2}$ |
| Vector | $\frac{3}{2}\frac{m^4}{(4\pi)^2}$ | $-\frac{m^2}{(4\pi)^2}$ | $\frac{7}{120(4\pi)^2}$ | $-\frac{13}{60(4\pi)^2}$ | $\frac{1}{15(4\pi)^2}$ |

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